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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,180	11/11/2003	Daniel P. Vollmer	020569-03900 (P202-1284-U)	4645
54487 7590 01/11/2007 JONES & SMITH, LLP THE RIVIANA BUILDING 2777 ALLEN PARKWAY, SUITE 800 HOUSTON, TX 77019-2141			EXAMINER FIGUEROA, JOHN J	
			ART UNIT 1712	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/705,180	Applicant(s) VOLLMER, DANIEL P.	
	Examiner John J. Figueroa	Art Unit 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 7-9, 12, 14, 15, 18, 19 and 21-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-9, 12, 14, 15, 18, 19 and 21-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 18 and 21-40 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 3-6 of copending

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Application No. 10/911,038. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the same reason made of record in item 13 on page 10 of OA.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 7-9 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 6,479,573 B2 to Burdick (hereinafter 'Burdick').

Burdick discloses an aqueous suspension, that can be used as a thickening an aqueous system such as an oil well drilling mud, said aqueous suspension comprising water, a salt(s) including a carbon-containing salt, xanthan gum as a stabilizer, a water-soluble polymer and/or a co-suspended thickening polymer, such as hydroxyethylcellulose (nonionic), hydrophobically-modified hydroxyethylcellulose and carboxymethylcellulose; wherein the most preferred carbon-containing salts are sodium formate, potassium formate or mixtures thereof. (Abstract; Col. 3, lines 33-40; col. 4, lines 35-37 and 63-67; col. 5, lines 15-25 and 44-59; col. 14, lines 1-50; See e.g.,

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Examples 2-3 disclosing a suspension containing hydroxyethylcellulose and xanthan gum in a sodium formate aqueous solution; Example 4 disclosing using the suspension of Example 3 as a thickening agent) The suspension can contain one carbon-containing salt or a mixture of salts that can include inorganic salts. (Col. 4, lines 19-48)

Burdick further discloses that the carbon-containing salt can be present in up to about 45% by weight of the *suspension*, the polymer(s) about 5 to 30% and water about 40 to 85%. Thus, the concentration of the salt(s) in *solution* can be as high as 55%. (Col. 4, lines 48-63; col. 13, lines 54-58)

Although Burdick does not specifically disclose the "true crystallization temperature (TCT), API 13 J" property for the aqueous suspension, because the aqueous suspensions disclosed by Burdick and encompassed by the instant claims are the same, then Burdick's aqueous suspension and that recited in the instant claims must inherently possess the same physical properties, such as TCT.

Thus, the claims are anticipated by Burdick.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent Number (USPN) 6,239,081 to Korzilius et al., hereinafter 'Korzilius'.

Korzilius teaches certain drilling fluids. Drilling fluids taught include potassium formate, especially at 30 to 100% saturation, and other components such as cellulose ethers like hydroxyethyl cellulose and carboxymethyl and carboxymethylhydroxyethyl cellulose (see column 1, line 60 to column 2, line 40). The examples show 50% and 70% solutions of potassium formate and either carboxymethyl or carboxymethylhydroxyethyl cellulose. See Table III at page 6 of the specification for corresponding densities and TCT for these formate solutions. Note that the recitation concerning 70 deg F in claims 7-10 and 12-1"6 is taken as a product by process type limitation. In any case, 70 deg F is at or near usual ambient temperature and is not seen as distinguishing.

As to claims 18-21, the introducing step is implied in the uses taught. Note that brines of some sort are naturally occurring in well bores. Examiner notes that clay is an optional component of Korzilius.

Moreover, it would have also been prima facie obvious to combine two formate solutions (e.g., sodium formate and potassium formate) for the same purpose (cellulosic suspension) to form a resultant suspension to be used for the very same purpose.

"[T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) Applicant has not provided any evidence regarding the criticality of sodium

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formate being less than 25% of the total alkali formate component to patentably distinguish the instant claims from the prior art.

Generally, differences in weight/volume percentages ranges will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such ranges is critical. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969).

Thus, the claims are unpatentable over Korzilius.

7. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Application Number 482 533 A2 to AQUALON (hereinafter 'AQUALON').

Examiner notes that amended claim 1 limits the alkali formate to be about 40 to about 75 weight percent of the *solution*, whereas the cellulosic polymer is limited to about 10 to about 23 weight percent of the *suspension*.

AQUALON discloses a fluidized aqueous suspension, that can be used in oil and gas recovery applications, prepared by the addition of 15% by total suspension weight of a polymer to a concentrated sodium formate solution containing xanthan gum as a suspension stabilizer; wherein the polymer can be a nonionic cellulosic polymer, such as hydroxyethylcellulose and derivatives thereof, and the concentrated formate solution is greater than 30 percent by weight of the total suspension. (See Abstract; page 2, lines 1-2, 9-18 and 39-49)

In the table on page 2, lines 28-38, AQUALON discloses a fluid suspension of hydroxyethylcellulose in 55% sodium formate by weight *of the solution of water and sodium formate*. In Example 1 on page 3, lines 25-35, a fluidized polymer suspension is disclosed containing about 15% by *suspension* wt. of hydroxyethylcellulose and 0.15% wt. xanthan gum in about 55% by weight of the *solution* of concentrated sodium formate.

Although AQUALON does not specifically disclose the "true crystallization temperature (TCT), API 13 J" property for the aqueous suspension, because the aqueous suspensions disclosed by AQUALON and encompassed by the instant claims are the same, then AQUALON's aqueous suspension and that recited in the instant claims must inherently possess the same physical properties, such as TCT.

Moreover, it would have also been prima facie obvious to combine two formate solutions (e.g., sodium formate and potassium formate) for the same purpose (cellulosic suspension) to form a resultant suspension to be used for the very same purpose. "[T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) Applicant has not provided any evidence regarding the criticality of sodium formate being less than 25% of the total alkali formate component to patentably distinguish the instant claims from the prior art.

Generally, differences in weight/volume percentages ranges will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such ranges is critical. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA

1980). In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969).

Thus, the claims are unpatentable over AQUALON.

8. Claims 1-4, 7-9, 12, 14, 15, 18, 19 and 21-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burdick in view Boatman.

Burdick was discussed above in paragraph #4. Burdick does not disclose a method for thickening a brine during oil/gas recovery by introducing the suspension to a brine or using a mixture of sodium formate with potassium formate and/or cesium formate.

Boatman was discussed above in paragraph #9.

Accordingly, it would have been obvious to a person of ordinary skill in the art at the time that the invention was made to manipulate the alkali formate salt content (and, thus, the density) of Burdick's suspension and add it to a brine-based drilling fluid (such as Boatman's calcium chloride or calcium bromide drilling fluids) to thicken the drilling fluid. One of ordinary skill in the art would have been motivated to do so by the teachings in Boatman to attain an optimized density for the resultant brine-based drilling fluid that would be appropriate for a particular drilling operation condition, including under hazardous and extreme temperature/pressure conditions, and that is, furthermore, environmentally friendly.

Moreover, it would have also been prima facie obvious to combine two formate solutions (e.g., sodium formate and potassium formate) for the same purpose (cellulosic suspension) to form a resultant suspension to be used for the very same purpose.

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"[T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) Applicant has not provided any evidence regarding the criticality of sodium formate being less than 25% of the total alkali formate component to patentably distinguish the instant claims from the prior art.

Generally, differences in weight/volume percentages ranges will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such ranges is critical. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969).

Thus, the claims are unpatentable over Burdick and Boatman.

Conclusion

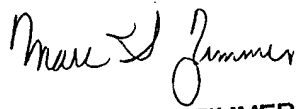
Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Figueroa whose telephone number is (571) 272-8916. The examiner can normally be reached on Mon-Thurs & alt. Fri 8:00-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JJF/RAG


MARC S. ZIMMER
PRIMARY EXAMINER